

Q & A

Distributed Energy Road Show

Anchorage, AK
December 12, 2003

Distributed Energy: The National Perspective

Q: Why use methanol instead of ethanol?

A: Energetically, it is the least difficult fuel to crack hydrogen from.

Q: Is there a specific standard for installing microturbines?

A: No, although most are installed by referencing existing standards in some fashion.

Q: Is anyone working on a standard?

A: Yes, the University of California Irvine is developing a product standard.

Q: It appears there has been a loose standard used in the interim?

A: Yes, UL2200 and NFPA 37.

DG in Alaska

Q: Do you use waste heat for A/C?

A: No.

Q: Are there building code references for co-generation sets?

A: No.

Q: Then how do they get installed?

A: We use parallel system codes or a combination of codes.

Comment: It is substantially less expensive if DG/CHP is taken into consideration when the building is constructed.

Q: Does Alaska have a state energy code?

A: For some technologies, but not all.

Q: What temperature is the water in your heat recovery systems?

A: Around 210 degrees Fahrenheit. We are working on ways to recover more radiant loss.

Comment: The latest trend in protective relaying is micro-processors, rather than mechanical relays. Much more reliable.

Air Permitting in Alaska

Q: Who does the actual enforcement?
A: ADEC has a group of compliance inspectors.

Q: What department are they under?
A: Environmental Conservation

Comment: Military is only required to meet state standards. Discipline of violations is handled by the military.

CHP

Q: Can these be installed on rooftops? The largest load for most Alaskan buildings is the rooftop unit. Is anyone working on moving those over to CHP?
A: We have seen some (i.e: Indiana) microturbines installed on buildings. So, it certainly can be done.

Microturbines

Q: What is the decibel range?
A: 50 dba at 5 meters; 20 dba at property line. Even without a silencer, our microturbine still met municipal noise codes.

Q: Does the silencer affect the output?
A: No, not at all.

Q: Would some installation issues be alleviated if you weren't concerned with interconnection?
A: Some, but the transfer switch, etc would still be necessary.

Q: CEA has hundreds of electricians. Why hire outside?
A: To get the same experience that the general public would and to give experience to contractors.

Q: Does Chugach own and operate generation?
A: Yes.

Hydrogen Safety

Q: Would you differentiate between a fuel and a hazmat (hazardous material)?
A: Hazmats are much more strictly regulated. You cannot drive some hazmat trucks through tunnels in this country, or over bridges, the way you can drive your car.

Q: What does the lean limit of 6% mean to us?
A: It refers to how much hydrogen must be present in the air mix to make it flammable.

Fuel Cells

Q: What is the gas pressure in the SOFC?

A: 40 psi

Q: What would it take to make these (SOFCs) market ready? When might this happen?

A: Who knows?! That may never happen.

Focus Questions

What is your reaction to the potential role of distributed energy in your community?

- Makes sense in terms of efficiency
- Interested in CHP
(discussed methane hydrates as a source of natural gas)
- What about event recovery?

Answer (from audience member): Utility engineers here are experienced enough to avoid damage from ice storms.

If I could carry one message back to Washington, DC, what would it be?

- Pass ANWR

What additional products and services can we provide to help you streamline DE installation and encourage more widespread use in your area?

- More education for building code officials and inspectors.
- Experience with practical application.
- We need markets!